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BOARD OF PUBLIC WORKS OF THE COUNTY OF KENT

1500 Scribner Ave., N.W. Grand Rapids, Michigan 49504

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Wednesday
May 14, 1980

GRAND RAPIDS
DISTRICT 9

MAY 16 1980

RECEIVED
RESOURCE RECOVERY DIV

Mr. Gerard Heyt
Resource Recovery Division
Department of Natural Resources
State Building
350 Ottawa N.W.
Grand Rapids, Michigan 49502

REFERENCE: Kent County Refuse Disposal System, Plainfield Landfill
Leachate Evaporation/Recycle System

Dear Mr. Heyt:

As you know, the leachate currently generated at the Kent County Plainfield Landfill is now disposed of by pumping and hauling this liquid from the leachate holding pond to a sanitary sewer located in Rockford. This sewer ultimately conveys the leachate to the City of Grand Rapids Wastewater Treatment Plant. This method of disposal for the leachate has proven in the past to be the most economical solution for the Plainfield Landfill.

Unfortunately, however, recent analyses of leachate done by the City of Grand Rapids has shown this wastewater to be unacceptable for treatment at the City plant (see attached letter). As you will note from Carl Nowak's letter, the problem with the leachate is in the high concentrations of heavy metals. Our engineering staff is currently considering a number of possible alternatives to reduce the concentration of these troublesome pollutants. One method being considered is the chemical precipitation and clarification of these metals. This method of treatment would involve a considerable expense for engineering and construction.

A second, and less expensive alternative which we are considering, involves the combination of evaporation and recycling of the leachate back through the landfill. Out of necessity we have recycled leachate in the past when a new liner was installed in the leachate holding pond. In an attempt to reduce the volume and improve the quality of the leachate, we are requesting the approval from DNR to recycle the leachate to the landfill on a regular basis. With your approval, we will recycle the leachate

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on an experimental basis to determine if any real benefits can be derived. We are hopeful that some of the constituents of the leachate will be partially absorbed as it passes through the refuse and soil contained in the landfill. Obviously, if recycling has the opposite effect on the quality of the leachate, or no apparent benefits are observed, we would discontinue this practice.

In making our decision to recycle the leachate we have taken into consideration the proposed Act 641 Rules which state in Rule 408(2):

Leachate removed shall be either reintroduced into the sanitary landfill if it can be demonstrated that such leachate will be absorbed by the sanitary landfill, or it shall be conveyed to a wastewater treatment facility capable of treating the leachate to meet appropriate discharge standards specified in a wastewater discharge permit issued pursuant to Act 245.

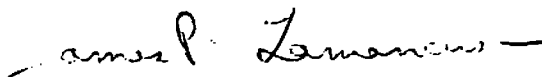
Some of the specifics for the recycle system are shown in the two enclosed drawings, Figures A and B.

The electric pump, 10 cm PVC force main and one of the evaporation/recycle ponds were constructed when the leachate holding pond was being relined. It is anticipated that additional ponds will be required as the absorption capacity of the area below the ponds is depleted or as the landfill is raised to a higher elevation.

We hope the information submitted here is adequate for your agency to make a determination on the proposed leachate evaporation and recycle system. If additional information is required, please let us know.

Very truly yours,

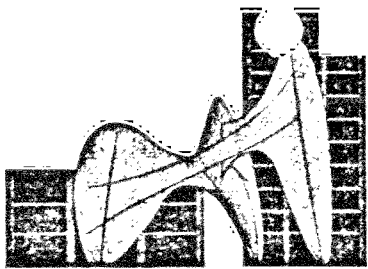
KENT COUNTY DEPARTMENT OF PUBLIC WORKS



James P. Lamancusa, P.E.
Civil Engineer

JPL:e
Enclosures

cc: Mr. Don Lamoreaux



City of
Grand Rapids
Michigan 49502

April 17, 1980

Mr. David Despres, Director
Kent County Board of Public Works
1500 Scribner N. W.
Grand Rapids, Michigan 49504

Re: Plainfield Landfill Leachate

Dear Mr. Despres,

In your letter to James Biener dated November 6, 1979, you discussed possible alternatives for the treatment of the leachate from the Ten Mile Road Landfill before being discharged into our sanitary system. You also stated in your letter that you would keep our office informed of progress being made in selecting alternatives or methods for this treatment.

You will note from the latest analyses on the leachate that the metals concentration, especially for nickel, is getting extremely high and in gross violation of our Ordinance.

We must, therefore, request that a timetable for the installation of treatment or other alternatives be established by you no later than May 19, 1980.

If you feel a meeting with us to discuss your alternatives would be helpful, please call me at 456-3633.

Sincerely,

Carl Nowak
Chemist II

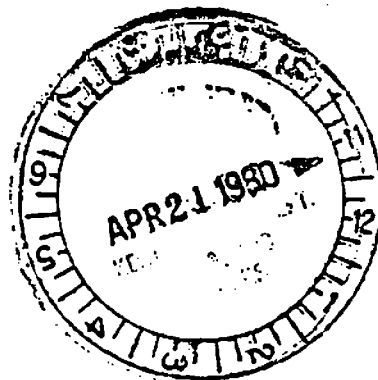
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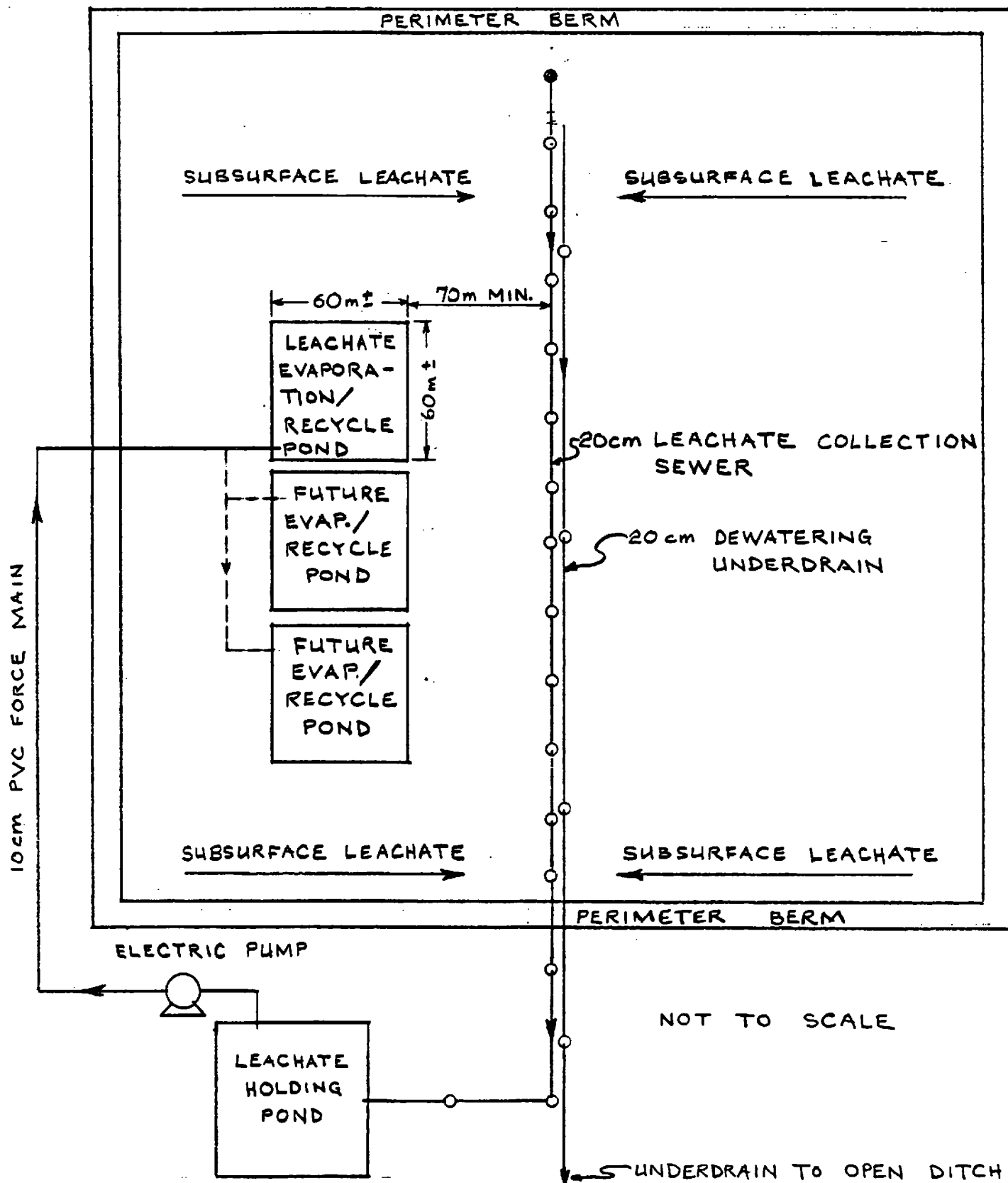
cc. J. Biener
D. Smith
File

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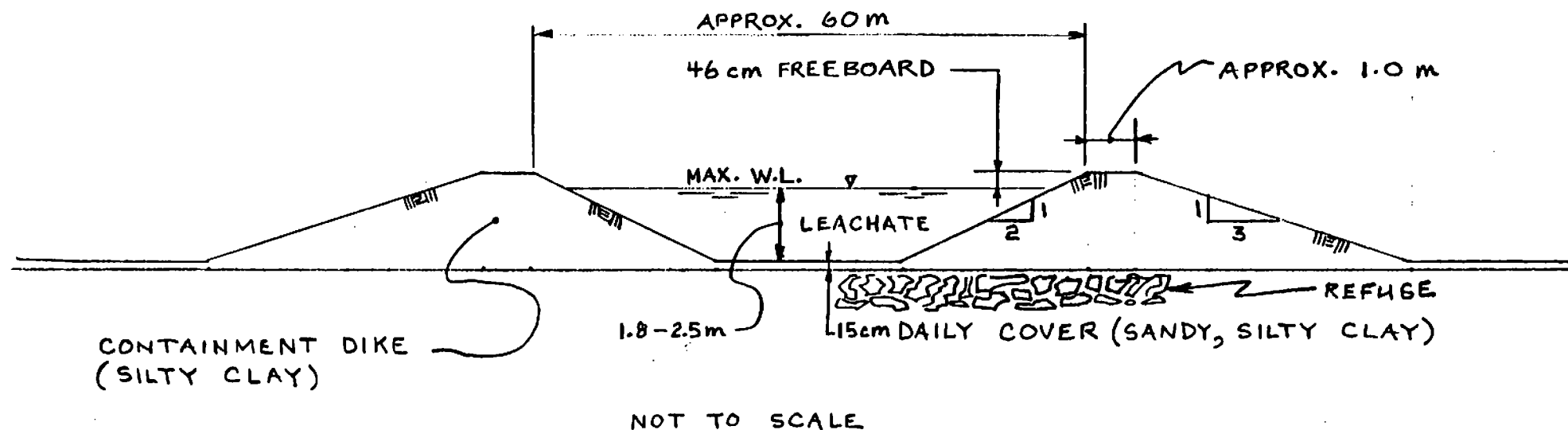


LEACHATE EVAPORATION AND RECYCLE SYSTEM

KENT COUNTY REFUSE DISPOSAL SYSTEM-PLAINFIELD LANDFILL

DATE: 12 MAY 1980

FIGURE A



TYPICAL SECTION THROUGH LEACHATE EVAPORATION/ RECYCLE POND

PROJECT 9
ROAD RAPIDS

1980

RECORD
EVERY DAY

KENT COUNTY REFUSE DISPOSAL SYSTEM - PLAINFIELD LANDFILL

DATE: 12 MAY 1980

FIGURE B